

Royal Society to give young scientists funds

by Clive Cookson
Science correspondent

The Royal Society is planning a major initiative to help Britain's best young scientists by providing them with funds to set up research groups.

The Society's *Forward Look 1978/79 to 1981/82*, submitted to the Government, says some initiative is needed to counter "the danger of research becoming frozen in its present mould and that many of our brightest young scientists, unable to develop their new ideas, will become frustrated and go abroad". It proposes to "seize an opportunity for stimulating the formation of new research groups in particularly exciting new fields around very able young scientists. The support of even a small number of such groups for limited periods of say five to seven years, on conditions in which only the highly successful would survive and find more permanent support, could have an impact on all proportion to the cost."

The Royal Society's proposals go further than existing schemes to help outstanding young scientists who cannot find tenure in university posts, such as the Science Research Council's advanced fellowships. The society would provide support in the form of research assistants, equipment and other research expenses to enable them to "form the nuclei of small but viable research groups".

Government ruling soon on future of literacy agency

The Government is to make a ruling on the future of the Adult Literacy Resource Agency, and by extension to help Britain's two million illiterates within the next two weeks.

A decision is to be announced by the Department of Education and Science following the publication next week of the preliminary report for 1976-77 which calls for direct central Government funding to ensure that basic adult education is provided by every local authority.

The proposals put forward by the agency, which is due to lose its £1m a year "pump-priming" grant next April, argue that a basic adult education unit with a central steering committee should be set up to coordinate and consult with voluntary organizations concerned with provision.

The report goes on to say that

Academics approached to be Scientology tax witnesses

by Judith Judd

Academics throughout the country received a tempting offer this week from the Church of Scientology. Dozens have been approached and asked to act as expert witnesses in a Value Added Tax tribunal—in return for a fee.

The Scientologists need them to take part in their fight to establish that courses at the College of Scientology in East Grinstead are the equivalent of university courses and therefore exempt from VAT. The issue is due to be decided in a VAT tribunal on November 1.

This week a spokesman for the Church of Scientology said that "a wide spectrum of academics and educationalists" had agreed to act as witnesses. Some were from universities and some from other educational institutions. However, he said he was unable to give the names of academics involved or to name them or their universities.

Lecturers at at least three universities, Nottingham, Birmingham and London, have been approached and in some cases as many as 20

Cardiff form appointment working party

by Frances Gibb

The senate of University of Cardiff agreed this week to form a working party on the future of the college.

The working party, which will comprise four non-student members of the senate and a student, will look into the organization and the future of the college and the governing appointments.

The motion, which was passed unanimously, says the "spirit of positive discussion" should be considered in the re-organization of the college. The members of the senate will be invited to spend a few days at the college of Scientology to look at the courses in the college.

The spokesman said: "We are not asking witnesses to comment on the merits of Scientology but simply to say whether our courses are equivalent to university courses." The law governing VAT says that courses provided by schools or universities or of the kind provided by them are not run for profit and are exempt from tax. Courses which are not exempt are taxed at the standard rate of eight per cent.

Venables decision will 'affect course of adult learning'

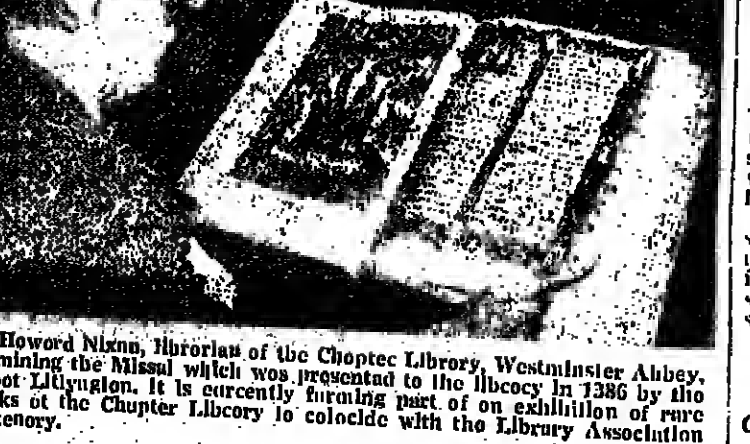
The decision of the Open University to implement the Venables report will profoundly affect the course of adult education, Mr Brian Groombridge, director of London University's department of extramural studies, said this week.

Speaking at the centenary conference of the Library Association at the Royal Festival Hall, Mr Groombridge said the decision would have important consequences for libraries which must adapt to offer more open access and learning to the public.

The Venables report envisaged that the Open University would provide high-quality software for adult education. Courses could be designed especially for groups or individuals who do not want or are unable to attend evening or weekend classes. Librarians should show an increasing solidarity with the independent learning schemes.

The concept of "academic" libraries would have to go. People would want the best books and materials that universities and polytechnics had to offer for personal, civic and academic reasons.

The present structures do not facilitate that kind of access to libraries. There would have to be an end to the low status concept of leisure use.



Row over press closure threat

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A spokesman for London University said: "The closure of the press is still a suggestion not a proposal. Consultations are going on with the university and with the staff of the press. The staff have not been shown the report because this was felt to be a management decision. There will be full consultation when the senate and court make their recommendations."

28 per cent more sought

continued from page 1

claim. He recognized, however, that while the Government was not in a rush to set up a system of internationalisation, but hoped that it would be successful.

Mr. Emmet, secretary of the University APU, said it seemed unlikely that the Government would take any action to change the situation within the existing system of internationalisation.

Ugandan refugees to get support

The Ministry of Overseas Development is to finance a scheme to help some 100 refugees from Uganda who are studying in Britain and lack means of support.

The scheme will be administered by the World University Service, which provides financial and social support for students in higher education who are refugees from their native countries.

NEXT WEEK

Cambridge four-page report by Peter Wilby. Four pages of reviews on medicine and physics books. Cecil Jenkins reviews a book on Maltrax.

Christopher Andrew on government "weeding" of official documents.

Bill Kirkman on government employment statistics.



Inquiry into 'secret DES cuts' claim

by Judith Judd

A Department of Education and Science investigation began this week into suggestions that it is making hidden cuts in teacher training numbers.

The National Association of Teachers in Further and Higher Education became concerned after several colleges and local authorities noted discrepancies between the intake figures for 1978 and the global total of students.

A spokesman for the NATFHE said: "We are very concerned that the Government may be making hidden cuts in the teacher training numbers and if we are not satisfied with the explanation we receive we shall be taking the matter to the Secretary of State."

The association believes that the figures which have been sent out to colleges are one step with the assumptions in a Government circular sent out last month in which they had been told of a current reorganization of teacher training is based. One is that 50 per cent of the intake will stay on for a fourth year, although this varies from institution to institution.

However, the association says it has found that calculations for some local figures do not make sense. If they are based on the assumption that 70 per cent of students will stay on for a fourth year, this is the case with Ralle.

The wastage rate is also being questioned. This has been held down to 18.5 per cent but has been raised up to 20 per cent in the latest target numbers. "If people continually over-shoot their target and if they are only losing 18.5 per cent of students we need worried they may be asking to reduce their intake," a NATFHE spokesman said.

The interpretation of a memorandum issued in July about in-service training is also causing concern. This said that the percentage of places reserved for in-service should go up from 20 to about 22 per cent.

Teacher training institutions have been asked by the DES to review to detailed proposals they have for initial teacher training in 1981.

It letters to Regional Secretary Committees, local education authorities and governing bodies of voluntary colleges the DES suggests the review should ensure that each region has an adequate source of expertise in common subjects.

Government accepted, page 2

£120m Whitehall package to aid poorer overseas students

by Sue Reid

A £120m Government package to aid thousands of overseas students from poor countries studying in Britain is now under active discussion at Whitehall and will be put to a special sub-committee of the Cabinet in the next few months.

The package, a major initiative by the Government, which has come under increasing criticism about the sharp rises in foreign student fees, will aim to introduce a system of positive discrimination giving new priority to Third World students at the expense of wealthy students from the rich and developed nations.

It will come before the Cabinet taking a full review of the funding of overseas students' fees for the 1980s following the completion of a series of confidential discussions between officials at Whitehall, the Department of Education and Science, and the Ministry of Overseas Development.

They are proposing that some categories of students from the underdeveloped world should be totally exempt from tuition fees, which now stand at £850 for post-graduate and £650 for undergraduate foreign students respectively.

They are also suggesting a centralized and centrally financed network of hardship funds.

Three categories of overseas students are being considered for fee exemption. These include a higher number of refugees, poor students from the underdeveloped world and poor students from the richer nations.

The package will not consist of new Government funds but instead there will be a "redirection of resources". Students from America, Europe and the wealthy sectors of the rich nations will inevitably be asked to pay even higher fees.

Mrs Williams, Secretary of State for Education and Science, has been a prime instigator of the proposal. She has indicated that a system of positive discrimination in favour of poorer foreign students should be introduced before the end of the decade.

If the scheme wins government backing it is expected to go before the Cabinet early next year following detailed talks with interested bodies—it is likely to receive a warm welcome from those in the field.

Organizations such as the United Kingdom Council for Overseas Students' Affairs and the National Union of Students have argued strongly against the present discriminatory policies governing foreign students' fees and awards.

The latest figures show that last year there were 75,796 overseas students in public sector educational institutions in Britain with 85 per cent from developing countries.

News of the package will be given to government by the UKOSA and the Council for Education by the Commonwealth that a standing commission should be set up to coordinate overseas students' affairs. A decision is expected from Mrs Williams within the next month.

US backer for Oxford college

The future of Oxford's new medical college has been assured by a £1m gift from the Texan philanthropist Cecil H. Green and his wife.

In appreciation, Congregation will asked next month to change the name from Radcliffe to Green College.

Sir Richard Doll, Regius professor of medicine at Oxford, will receive his oyster in October 1979, when the donation was announced. Dr Green, he said: "The gift has transformed the outlook for the development of the new college."

Dr Green, born in Manchester and educated in Canada, founded the first electronics firm Textron in America. His benefactions in the field of medicine are extensive.

The new college, being set up in the buildings and grounds of the Radcliffe Observatory, should be opened by October 1979. It is intended mainly for postgraduate students of clinical medicine.

28 per cent more sought

continued from page 1

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The THES
We regret that this week's issue of *The Times* has had to be reduced in size. This is due to continuing problems in the Reading Room. From this week the position of the pages of news from North America and overseas has been changed. These pages will now appear immediately after the home news pages.

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America confronts crucial race issue

from Michael Blayton

WASHINGTON
On Wednesday the United States Supreme Court heard arguments in one of the most momentous cases for years. The case, *Allan Bakke v. the University of California*, has become a national celebration—on its outcome depends not only the position of minority students and teachers in higher education but the future of race relations throughout America.

Allan Bakke, a 37-year-old white male, is suing the university for twice rejecting his application to the medical school at Davis while admitting 16 blacks with lower test scores. His suit charges racial discrimination is a crucial challenge to the legality of all special programmes to help disadvantaged minorities gain ahead in American education; business and society in general.

Officers of the CNAA and the two local authority associations which advise the CLEA are to have a series of meetings. Together with officials of the Local Authorities' Conditions of Service Advisory Board they will plot the relations between the manpower requirements involved in CNAA validation and available levels of local government staff.

Also at last week's meeting a new date for CNAA visiting parties inspecting college courses was discussed.

continued on back page



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Henry Cowper and Guy Neave discuss one educational task that would face a Scottish Assembly

Wanted: a plan for Scotland's central institutions

As the new parliamentary session draws nearer there are renewed hopes in Scotland that the coming year will see the setting up of a Scottish Assembly. Now the Assembly will deal with higher education—either through a Higher Education Council or through a Council for post-secondary education—both a matter of intense speculation.

Whatever the outcome, one of the thorniest problems the assembly will have to face is the form and organization of central institutions. Centres of excellence outside the university or merely another example of what writers south of the border have termed "academic drift" the central institutions are one of the most ticklish issues in that sector of higher education long recognized for its devolved character.

Of the 11 central institutions, 11 come under the Scottish Education Department in Edinburgh, and the remaining three are governed by the Department of Agriculture and Fisheries. Founded in 1901 as centres of excellence in technical education, they now embrace courses such as applied sciences, art, design, human home economics, and commerce.

Until recently, they retained a considerable commitment to their technical origins and, to some English eyes at least, appeared less polytechnic than monotechnic.

Unlike the polytechnics, they do not come under theegis of local authorities and, in theory at least, a coordinating role over their development is exercised by the Inspectorate working out from St Andrew House. Another feature unique to Scotland and of particular importance to the evolution of the central institutions is the process involved in setting up new degree level courses.

New courses do not involve the usual process of a proposal to be taught. There is such a demand among school leavers that the courses will be efficient in terms of staff support and other resources. There also has to be a wide enough demand among employers and on the labour market generally to justify such an initiative.

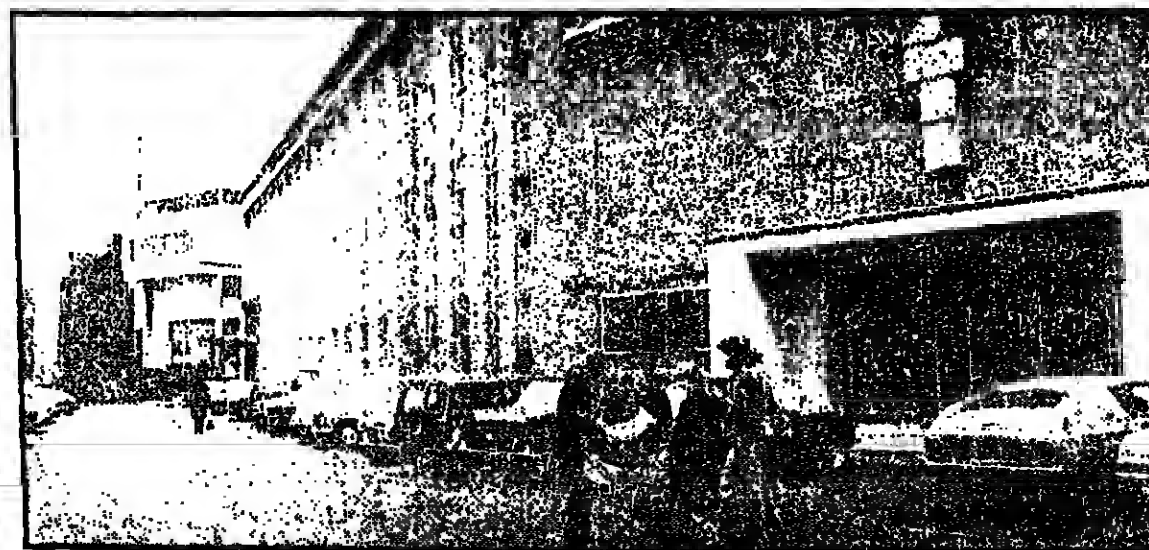
In England, these considerations are usually handled by the Department of Education and Science and its directorate and members of the local authority.

In Scotland, however, the mechanism is more centralized. Three committees exist to vet the initial proposal for degree level submissions. They review the likely demand and the student outlets before forwarding the submission to the Council for National Academic Awards. Their task is to make sure that the proposal is fully in keeping with the particular features of higher education in Scotland and also to avoid undue duplication of courses at national level. Only when an establishment has demonstrated adequate demand and quality will the submission be forwarded to the CNAA.

In theory, the presence of such a mechanism should not only ensure a balanced national development for the degree level sector, but also make for a relatively clear division of tasks between central institutions on the one hand and the locally controlled colleges of further education on the other.

Much of the difficulty, however, springs from the fact that for the best part of this century courses equivalent in further education in England were carried out by either the central institutions or day and evening classes attached to schools. Only in 1978 did a formally run further education sector begin to develop. Today, there are over 60 further education colleges in Scotland.

One of the results of setting up a new degree level sector has been the need to change the type of courses followed by students in central institutions. Over the 10 years from 1962-63 the proportion of students following full-time courses has more than doubled from 33 to 78 per cent, while those



Duncan of Jordanstone College of Art: outcome of decision to split the Dundee College of Technology.

following part-time studies have fallen from 37 to 7 per cent.

Behind the facade of administrative homogeneity, however, the central institutions have developed haphazardly. And over the past few years, when the downturn in entrants to higher education became marked, the practice grew up of "lifting" courses established in the further education sector and transferring them to the central institutions to fill up the empty places.

This process has also taken place at the upper end with the introduction of CNAA degree courses. In other words, the central institutions' work spans almost the whole gamut of post-secondary education at Scotland from university level down to day-class work usually assigned to colleges of further education.

The situation has not passed unremarked. In 1969, the Educational Institute of Scotland, the national teachers' organization and a considerable power in the land, proposed that those CIs involved in degree work should merge with the universities and the remainder fall in with the local authority further education colleges.

This bold suggestion rested on the belief that greater efficiency was needed and that the duplication of resources was wasteful. The EIS also recommended that a new CI should be created for this would have covered the remaining 20 per cent of the system of post-secondary education in Scotland, was commented upon, noted, and ignored.

In 1975 the Scottish Education

Department split the Dundee College of Art—a decision that in retrospect was most fortunate, given that the falling birthrate and education cuts were likely to be felt most severely in areas where the most institutions specialized.

Indeed, if one examines the rich provision of post-secondary education in Dundee, the current administrative predicament of Scottish post-secondary education emerges in all its terrible splendour. Combined within heavy ramparts are a university (around 2,400 students in 1974), a newly built college of education (which will lead to the eventual closing of at least three others), two central institutions already mentioned, a local authority technical college, and a local authority college of commerce.

The idea of merging some of these establishments to form a polytechnic is resisted, both in Dundee and elsewhere, on the grounds that it is an alien practice and ought to be discouraged.

In the case of other central institutions what passes ostensibly as diversification at one level becomes very quickly, when compared to the type of work carried out within local authority establishments, a matter of duplication. One obstacle to greater coordination between the two sectors is the historic status and prestige accorded to the central institutions as well as the differences in allegiance between staff in the two sectors. Many further education teachers are members of the EIS while central institution staff appear split between the EIS, ASTMS, NATFHE and other associations.

The problem facing the assembly is both devastatingly simple and politically explosive. Will it be able to impose some form of planning upon institutes which, however distinguished, evolved more in the light of history than in keeping with the hard-headed criteria of the manpower planner?

Certainly, there is a need to preserve that measure of flexibility which the Robbins report recognized as essential for a small country such as Scotland. But at a time of severe restrictions in the educational budget, the assembly has the potential to work out a model more in keeping with Scottish requirements than the accumulated and uncoordinated development of the past 40 years.

Close scrutiny is needed of the workings of the central institutions, first set up to "develop into institutions worthy to rank in quality and achievement with the best of their kind in any other country." It is no longer sufficient merely to state that they are the "Scottish equivalent of polytechnics".

The claims to excellence of these institutions cannot rest upon the achievement of similar bodies south of the border, however appealing that might appear in some. And just how far the claims of individual establishments are justified, though important, is by no means so significant as knowing how far those claims are borne out for the species as a whole.

Henry Cowper is senior councillor for the Open University in Scotland and Guy Neave is senior research fellow at the European Cultural Foundation's Institute of Education.

Love's labours' reward for an anarchical Don Juan



Guido Almansi reviews Peter Hall's Glyndebourne production of Mozart's *Don Giovanni*, now on tour

The death of Molière's Don Juan has been described as a kind of suicide. In Peter Hall's interpretation, the *Don Giovanni* also appears to commit suicide, because only in hell would his rage for chaos be satisfied.

The Glyndebourne production of *Don Giovanni*, which is now touring the country, together with Janoczek's *The Cunning Little Vixen* and Veron's *Antony*, starts with the unusual image of Leporello squatting in a corner of the stage under an immense black umbrella, more suitable to a divinity student than to a regular servant.

The libretto, which is contradictory in its meteorological references, first suggests that it is pouring rain on Leporello ("Pioggia e vento sporco"); but immediately after dawn breaks on a bright day, favourable to some new seduction ("Essendo l'alba chiara, non surubba qualche nuovo conquisto? Io lo dico super per parole in lista").

Leopoldo hangs from his arm in the second and implausibly saves him from his master's sword-thrusts in the third, is not particularly suited to the libretto or the character, but sets as a powerful symbol of the gloomy and tenebrous mood of this production.

The sky is always dark, and so are the clothes of the singers, with the exception of a solitary feathered hat worn by Donna Elvira. The architecture is sombre, almost cathedral, with balconies resembling sepulchres in mid-air and houses not dissimilar from funeral chapels. Season's large autumnal sign: Scorpio. Artistic deity: Goliath.

The opera is thus pushed forward to an early nineteenth-century Spain, with a Castilian rather than an Andalusian background, and hopelessly bad weather. The chain of contrivances to work in an abnormal delegation of responsibilities from Goya to the designer and from him to the producer.

The dark, pictorial Spain of the 1830s is however exploited by Peter Hall, to recognize some features of that ghostly country, portrayed by Tirso de Molina in *El Burlador de Sevilla* in the early seventeenth century. For Tirso, the tombstone can serve as a desk set for a banquet of vipers and tarantulas; for Peter Hall the equestrian monument of the Comendadora in the graveyard is available for hanging the dead.

The production insists on a familiarity with death and the nether world, thus integrating the infernal abduction of the Cavaliere at the end of the opera with the traditional difficulty to reconcile the humorous elements of the story with the terrific encounter of Don Giovanni and the Comendadora in the last scene, and the arrival of the band of devils which the libretto knight to a conventional hell.

To Peter Hall's production, everything leads towards this infernal descent. The opera becomes, in the end, a meditation on a ceremony of death and damnation.

The anachronistic features of sets and costumes are not disturbing; on the contrary, they help the audience to recognize within the story our conventional image of

Spain as a mortuary country afflicted by a sort of permanent twilight. It is more difficult to accommodate some contradictions between what the libretto says and what the producer suggests.

For instance, when Donna Anna, Donna Elvira and Don Ottavio, all disguised, are invited to the hall, they are portrayed as poor, shabby, and even the music suggests the carnival atmosphere of the scene ("Zi! Zi! Signore Maschera!").

But in this production the three characters are magnificently clad in black, elegant and dark. The masks on their faces are thin white straps, transparent, turning into images of doom. The elegance of these harbingers of death is thus subversively, not worldly as in the text.

The librettist, Lorenzo da Ponte, was trying to achieve something quite different in 1791: of the crossroads of two different traditions. On the one hand there was comedy, with wicked Don Giovanni surrounded by devils who stick their pitch-forks in his backside. On the other hand there was a tragic version going back to the mythical roots of the legend, which are solemnity and funereal.

Peter Hall does not accept the Dapontian juncture, but invests his own Mozartian Don Giovanni, leaning heavily towards Tirso and the Spanish roots of the legend, with a grandeur and nobility not because it is right or reasonable

In fact, I believe it to be perversely wrong—but because it is consistent and passionate in its reading of the text. Above all the producer has succeeded in bringing to light the anarchical elements of the legend.

The monstrously wicked *caavillero* is, among other things, an anarchist who wants life to be a chaotic venue, unstructured and chaotic. He wants "un mondo barolo", "un mondo carino" both in a literal and a metaphorical sense.

Already in *El Burlador* we find: "Quien a Don Juan ordena esta degredacion? (Who is ordering Don Juan this disorder?)" And in *Don Giovanni*: "Senza alcun ordine / La danza sia / Chi l'invitato, / Chi la folia, / Chi l'allestito, / Chi la balla." ("Let the dance be without any order or...")

Peter Hall has exploited this undercurrent of anarchy. His Don Giovanni does not drink in the so called champagne aria. He wants the world to be drunk and chaotic. There is no vicarious intoxication through the drunken feeling of the protagonist, but a turbulent sense of life as a delirium of unimpeded movement, as the centre of explosive confusion.

The stupendous beat of Don Giovanni's great aria should not originate from the flux of his inebriated blood, but from his inebriated vision of the world as the stage of chaotic flux. Don Giovanni wants a pandemonium on earth; unable to find it, he accepts his downfall in order to fulfill his anarchical passion to hell.

The author is professor of comparative literature at the University of East Anglia. The Glyndebourne touring opera is at present in Southampton and moves next week to Manchester.

BOOKS

In the library of the imaginary museum

L'Homme précaire et la littérature by André Malraux... Malraux: Life and Work edited by Martine de Courcel... Malraux: a Biography by Axel Madsen...

was "to knock down the wall of rhetoric which appears to bar, for the Anglo-Saxons and particularly the British, the access to Malraux's work..."



André Malraux

One of the central ideas of André Malraux was that of metamorphosis, by which he meant the transvaluation through juxtaposition of masterpieces of all ages in that 'Imaginary Museum'...

There is perhaps too much random stuff by his names from other fields and enough porcellanous triviality, as in the pieces by Nicola Althaus, C. L. Sulzberger and the lyrical Vietrin Ocampo, to confirm the pragmatic Anglo-Saxon in his dark prejudices.

While pride of place should perhaps be granted to the excellent essay by Manes Sperber on his friend's political affiliations, one should also mention E. H. Gombrich's historical placing of Malraux's philosophy of art...

These ghosts still linger over the posthumous *Épilogue précaire* et *la Rivoltaire* which, although it is an independently conceived and quite thoughtfully carried all the inevitable Malraux's larger ideas on literature...

Malraux: Life and Work comprises essays by 17 contributors on various aspects of the writer's career and a concluding piece by Malraux himself...

of which it was in effect the form. The mutation of this cultural atmosphere and value-system from the thirteenth century onwards is traced through the Renaissance, the rise of literature to equal status with painting and, in particular, the development of the theatrical arts...

These "technical arts", in Malraux's view, diminish the individual, devalue the sense of deity and the need for personal meaning which time and death impose upon every life...

ing but virtually abolished the ability of meaning. Malraux, in fact, reassures that the *Épilogue* must be founded on the possibility of a reconstruction of a new, more sensibility which might be called this book.

Malraux, then, although a mellowed and less handsome man when on the verge of old age, although he necessarily had to dole out of a certain privilege to his admirers...

While the confining and planetary may indeed be a disruptive and disorienting force, it may at least help to serve us in our search for the human particularity...

These "technical arts", in Malraux's view, diminish the individual, devalue the sense of deity and the need for personal meaning which time and death impose upon every life...

Riding to hounds

Popular Privilege: A Social History of English Foxhunting, 1753-1885 by David C. Hawkings

There are few subjects more likely to start an argument among friends than hunting. It is said on the fox and sometimes to horse and hounds, damaging to property, and too seldom of aristocratic privilege...

Even in the early days of its popularity, some 200 years ago, the sport had its critics. "The world's sport had its critics," said Shakespeare, "may be divided into people that read, people that hunt..."

While the confining and planetary may indeed be a disruptive and disorienting force, it may at least help to serve us in our search for the human particularity...

Exhausting was even felt to benefit the mind as well as the body. Charles Kingsley advocated the participation of clergymen in the sport...

Indeed, one of the deficiencies offered for the sport was by democratic character. Poor, sparsely, and former ride side by side. Men of the professions and businessmen joined in too, especially after the railways made it possible to travel in the same day...

Participation was necessarily limited by cost, though well-known hunts were played by throngs of spectators who followed on foot and on horseback...

It is not always been successfully strident. Take for instance the treatment of the Shrewsbury by-election of 1874 and the intervention there of the National Liberal League...

It is not always been successfully strident. Take for instance the treatment of the Shrewsbury by-election of 1874 and the intervention there of the National Liberal League...

BOOKS

Victorian crusaders

The Politics of Electoral Pressure: A Study in the History of Victorian Reform Movements by D. A. Hunter

Professor Hunter is primarily concerned in this book with a group of Victorian "crusaders", and especially with the ways in which these movements tried to exert political pressure in order to achieve the statutory enactment of the measures for which they campaigned.

The prototype for these activities is identified in the operations of the Anti-Corn Law League, and indeed the continuing influence of that movement's supposed success is well brought out in the following account.

It seems improbable that Hunter's obvious enthusiasm for his subject is likely to evoke widespread interest amongst the groups he studies. The electoral potential of Nonconformist idealism of the United Kingdom Alliance and the powerful sectarian zeal of the Liberalism Society are not matters much in tune with the preoccupations of our own day...

now much less so as well as to search the nineteenth century for the origin of major twentieth-century political phenomena. The movement analysed here did in fact enjoy stronger and more continuous support than some other evidence that the threat of abstention or optimistic employed against Liberal candidates had any very great success in affecting the policies of that party...

This problem has had to be faced at many points in this book, and it has not always been successfully strident. Take for instance the treatment of the Shrewsbury by-election of 1874 and the intervention there of the National Liberal League...

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Beowulf from scratch. Word-Heard: An Introduction to Old English Vocabulary by Stephen Barrow. Yale University Press. £7.10. ISBN 0 300 02026 0. 'This Word-Heard aims', its author tells us, 'to help a beginning student to master the ordinary vocabulary of Old English'. To that end he has assembled in 272 etymologically or conceptually related groups some 2,000 words from Beowulf and seven other poems, excluding a few very common words and those of least frequent occurrence. He gives each group a brief paragraph of comment, whether on its semantic spread, Old English formation or pronunciation, compares in modern English or in other languages, Germanic or Indo-European, and includes some of the systematic, but a stimulating selection. Barrow has an engagingly chatty style, bringing in such diverse subjects as Italian traffic signs and recent American politics, to make the charge of learning Old English vocabulary an intellectually stimulating exercise'. He appends

Beowulf from scratch. Indexes and tables of words, prefixes and suffixes. The aims of Word-Heard are some ways disappointing. In many places it draws attention to words which are not in Beowulf. The word 'fifteenth' is given as an example of a word which is not in Beowulf. The word 'fifteenth' is given as an example of a word which is not in Beowulf. The word 'fifteenth' is given as an example of a word which is not in Beowulf.

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BOOKS

Matters cosmological

Frontiers of Astrophysics edited by Eugene H. Avrett Harvard University Press, £15.00 and £5.60 ISBN 0 671 32659 8 and 32660 1

Public interest in matters astronomical has probably never been greater. The interpretation of these phenomena in terms of terrestrial science to proper activity for the scientist since Galileo showed that the substance of the heavens was not immaterial is primarily the concern of physics, with chemistry and mathematics in strong supporting roles. With the recognition that there is far more than stars in space the term astrophysics was extended to take in the whole interpretative process from the elementary particle and quantum physics of the nuclear stars to the chemistry of planetary formation and the mathematics of cosmology and of the unfathomable potential wells of black holes.

Of several institutions well equipped to give a truly synoptic and professional survey of the frontiers of the subject none is better qualified than the Harvard University department of astronomy chaired by Alex Dalgarno FRS. This team has given us 12 chapters drafted and used in the winter of 1975-76 as part of what must have been a quite exceptionally stimulating undergraduate course. Each chapter is by a specialist actively engaged in his field and the level as a whole is suited to final-year or graduate students in the subject, though it varies substantially from course to course.

The breadth of the survey and the mostly very up-to-date treatment ensure that the volume should find a place not only in the libraries of universities but in every institution devoted to astrophysical research.

Invariably a set of 12 chapters by different lecturers will show significant variations in level of treatment and in demands made on basic education in physics. This is no bad thing in the case of a series of lecture courses since students' abilities must vary and for much the same reason the range of the book is extended to a wider range of scientists than would be served by a research monograph. In most chapters very adequate references have been given; many listing interesting unsolved problems.

Of course the authors have had to select the subjects and topics and the selection itself lends character, almost seminar type intimacy, to the collection. There is some logic to the sequence of chapters, starting from the formation of the solar system which selects chemical condensation to form first solids and then planets. Among the wide developments in solar research which are particularly well illustrated with pictures and diagrams in the second chapter the account of the intriguing neutrino paucity problem stands out.

After a brief chapter on the early stages of stellar evolution two chapters take us through the end points of stellar evolution to the world of condensed objects (which is being tackled so energetically on both sides of the Atlantic by the techniques of X-ray astronomy). On the whole observational techniques are not discussed. In this respect the chapter on infra-red astronomy is an exception, one might almost say a concession, to the scientists especially interested in instrumentation, with very different aspects of the parallelism medium and the book closes with three chapters devoted to more cosmological matters: active galaxies, galaxies and cosmology take us to the problem of the mass of the universe and its impact on the open or closed character of space-time.

R. L. F. Boyd

Space-time field

Space and Time in the Modern Universe by P. C. W. Davies Cambridge University Press, £6.80 ISBN 0 521 21445 9

Three years ago Dr Davies published a notable book *The Physics of Time Asymmetry*; he is known as a worker in relativity theory and in recent years he has made significant applications of relativity and quantum theory to the phenomena of "black holes" predicted by those theories. He now surveys, in the widest possible terms, the setting of these interests in the physical universe.

Starting from general notions of space and time and their deficiencies in classical physics, he introduces the four-dimensional spacetime of relativity physics. He examines the asymmetry of past and future, concluding that this basic everyday experience is itself related to the large-scale properties of the universe.

These properties are studied by the aid of general relativity, and Davies describes the procedure of treating space-time, matter, and gravitation all as aspects of a single "field". He illustrates this by the topic of a black hole—a region of space-time within a certain "horizon" where matter can exist so that its only effect outside is gravitational, "black" because no radiation can escape.

Davies has interesting things to say about a black hole as a possible state of a collapsed star, or as a possible power-house that could be fuelled by any sort of rubbish, and still more unexpected features when quantum effects are taken into account and do permit

W. H. Miller

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C. A. Coulson and A. Jeffrey

This book, in the Longman Mathematical Text series, illustrates as many different kinds of wave motion as possible. For its second edition, considerable work has been given to a number of topics involving linear waves, some of them dispersive. An introductory chapter has been added on nonlinear motion, covering the fundamental notions necessary for its study and emphasizing the differences that exist between the linear and nonlinear cases. Publication: November 1977 Paper £3.95 net

Waves, Atoms and Solids

D. A. Davies

Waves, Atoms and Solids provides a broad introduction to the electrical and thermal properties of solids and an understanding of the theory of semiconductors. It will be an invaluable textbook for students of physics, chemistry, metallurgy and engineering, while the inclusion of tables makes it convenient for reference. 81 units are used throughout. Publication: May 1976 Paper probably £4.50 net

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G. J. Traup

In the Longman Introductory Physics series, this book has been written for students taking a first course in physics at university or college. The text stresses the importance of the Galilean transformation in Newtonian mechanics; the relation of conservation laws to quantities to symmetry; and the use of conservation laws to simplify problems. The centre-of-mass frame is also used extensively. Some of the approaches used will remain useful to the reader even when he begins quantum mechanics. Paper £3.00 net

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BOOKS

First order logic

Beginning Model Theory by John Hirst Cambridge University Press, £4.50 ISBN 0 19 853157 5

Choice Sequences by A. S. Troelstra Oxford University Press, £4.95 ISBN 0 19 853163 X

Oxford Logic Guides, a new series edited by Dana Scott deserves, in his showing an enthusiastic welcome. The aim is to encourage interdisciplinary study between mathematics, philosophy, linguistics, and history and philosophy of science; the level is beyond an elementary text, but below the more advanced books and with an emphasis on applications.

As an introductory account of model theory, John Hirst's book is a pleasure to read. It is subtitled *The Compactness Theorem and Some Consequences* and is on the model theory of first order logic, addressed mainly to mathematicians. Here they will find a clear and precise account, short of the complexities of most logic textbooks.

The author chooses a first order logic with negation and conjunction as basic connectives and a universal quantifier. This leads her in a more complicated axiom-system than she had used in previous books. The goal is obviousness is worth the price. (This statement on page 18 that this set of connectives is minimal is wrong, though, because of the Sheffer stroke, and its dual.)

Then the key idea of an interpretation is formulated relative to a particular assignment of elements to the constants of an infinite sequence of elements of the domain (as with Tarski), and it is very instructive for mathematicians to study the definitions of *denotation* and *satisfies* on pages 24 to 25. A straightforward presentation of the idea of a model leads to the completeness theorem (proved by Henkin's argument), which guarantees the identity of the semantic concept of logical consequence and the syntactic one of derivability, in the form: A set of first-order sentences is consistent if and only if it has a model. Compactness and the Löwenheim-Skolem theorems are deduced and the interest of all this for mathematicians is brought out in a chapter on countability and categoricity. The question here is really, given a countable theory presented as a set of axioms, can Peano's axioms for the natural numbers be written in first-order form,

is it complete? This example is of a set of axioms which are true in the intended interpretation, but not the theory they decide all sentences in the first order language? Of course Gödel showed in 1931 that the answer was no, and this suggests the question of how to determine whether a theory is complete. Various tests for this conclude the book.

The book is not only technique, however; what is going on is clearly explained. And here perhaps one could quibble with her notion of the logical basis because of the puzzle that arises from the need to use set theory including the axiom of choice. For example, a set of sentences is shown to be embedded in a complete consistent set of an obvious use of the well-ordering theorem.

The reader who has heard of alternative set theories without the axiom of choice is then entitled to say: here are different concepts of "set". How do I know to which my "set of sentences" corresponds? If set of sentences was meant to be close to the normal English usage? The answer lies, I think, in the generality of the original definition of relational structure, on page 6, as sets of relations and functions on a domain. The definition is not the normal English relation and functions from which the theory is built (to judge by the examples) and so in allowing that these sets might have any cardinality has stepped outside the class of relational structures which could be constructed in practice. Perhaps mathematical readers will not worry; but they should do.

The outsider (and that is nearly everyone) conceives intuitionism as a queer variety of logic and mathematics in which the law of excluded middle cannot be relied on. And set theorists often concentrate on the intuitionistic viewpoint and calculus and its predicative logic. But this is essentially the negative side of intuitionism; a logic in which certain inferences are no longer possible. The positive side, in Hirst's later writings, is the use of choice-sequences, for example, in the construction of a "generic continuum of non-zero measure" and also in the construction of counterexamples to well-known classical theorems.

Yet through the thiries, forties and fifties the very heart of choice-sequences was obscure. This is no longer so we owe to Kreisel and

C. W. Kilmister

Power for the people

Energy or Extinction by Fred Hoyle Heinemann £1.50 ISBN 0 435 5430 6

Energy, Volume 3, Nuclear Energy and Energy Policies by S. S. Penner Addison-Wesley, £24.25 and £13.20 ISBN 0 201 05564 3 and 05565 1

Energy studies us an academic subject is becoming established, as it is being by the number of textbooks appearing with ready-made syllabus implications and even a few ready-made examination questions. The science and technology of energy are constrained by more than purely economic considerations and the fluctuating temperatures of environmental and political debate add spice, not to mention uncertainty, to the lectures.

Some purists would argue that the subject ought really to be entitled *Power studies*, but transmission of the political overtones and policies are powerful enough to make this suggestion. In both these senses of "power" there are, nevertheless, power factors and in the context of the contribution Fred Hoyle's recent book is no good one of the ingredients of a student's recommended reading list. The third volume of *Energy* is an example of a reference compilation for both staff and students.

Hoyle's extended tract on nuclear energy has a remarkable opening chapter in which he suggests that the environmentalists are polluted by the nuclear industry and inspired by Russia or communism to exploit the dangers of

the very limited fossil fuel resources of the West. His own consuming regard for logic demands that there be a logical reason for the anti-nuclear campaign and he fails to provide it. His book is a good read so only exploited by some of the media and short-term policy politicians.

In his more positive contributions in this readable booklet he makes a serious suggestion that thermal breeders, rather than fast breeders, using thorium rather than uranium/plutonium, could solve the energy problem for thousands of years. Thus the Canadian CANDU type reactor could achieve a 5 per cent drop-off in a mixed thorium-uranium fuel mix about 100 such reactors could supply the United Kingdom. With much attractive common sense, Hoyle seeks to minimize the problems of nuclear waste disposal and the (tautologous) dangers of attendant nuclear radiation, but it is a pity that his political scaremongering is of the very naive type and seriousness of the nuclear danger score-mongering that he so roundly condemns.

The three-volume set of lecture notes on energy is a valuable source book that ranges in depth and detail from second-year degree course to MSc preparation. Volume one (1974) treated such subjects as energy demands, resources, economic factors and utilization efficiencies, and volume two (1975) ranged over such individual topics as fossil fuels, solar, wind, tidal and wave-energy and hydroelectric, hydrothermal and geothermal sources. Volume three deals solely with nuclear energy technologies and energy policy and

is rich in descriptive material, mostly consolidated in 1975, supported by useful surveys of development of theories.

There is at times, throughout the volume, a heavy American emphasis, for example, in the engineering details and in the discussion of energy policies, and also in the references quoted. How many would agree with the claim, "It is likely that many of the issues and problems associated with extensive use of FBR's (fast breeder reactors) have been anticipated, analysed and debated more thoroughly in the US than in other countries?"

As well as standard accounts of nuclear fusion reactors, there are useful collations of data and theories on nuclear fusion, including physical processes, a variety of devices, details of theories of instabilities and a long section on inertial fusion presented with descriptive clarity. But it is in the section on environmental problems and on energy policies that the chief weaknesses appear. Some of the material is based on naive assumptions concerning possible international cooperation, for example, in the monitoring of the global impact of energy use and the control of incipient meteorological instabilities and variations of climate. The economics of nuclear power receives too little attention and the section on nuclear safety analysis reads rather leniently with the admission that there is room for argument. Indeed there is, but what are the arguments and what motivates them?

E. J. Burge

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BOOKS

Abstracts Bohr's wonder-world

A Survey of Modern Algebra, fourth edition
by Garrett Birkhoff and Saunders Mac Lane
Collier Macmillan, £10.15
ISBN 0 02 310670 2

An introductory text in abstract algebra must strike a judicious balance between abstract concepts and particular examples. Abstract concepts are meaningless without examples while a plethora of examples is confusing without a unifying abstraction. Birkhoff and Mac Lane's *Survey of Abstract Algebra* has long been one of the standard texts because of its reasonable balance of examples and abstraction. It first appeared in 1941 with revisions in 1953 and 1965. Only the chapter on group theory and algebraic lattices has been extensively revised for this fourth edition. Indeed there are few other changes from the 1953 edition.

The text divides into three topics: numbers and polynomials, linear algebra and abstract algebra. The first five chapters deal with integers, rationals, polynomials, reals and complexes respectively, giving the usual development and introducing the abstractions of ring, domain, field, etc. The construction of the reals, being essentially nonalgebraic, is only mentioned in the elementary number theory and the construction of polynomials are developed. There follows a chapter on basic group theory.

Next are four chapters on linear algebra which are more than sufficient for a first course in linear algebra. I found these chapters somewhat unsatisfactory for two reasons. First, the concrete introduction to linear algebra is not as difficult as it is in the other chapters. The authors presume some familiarity with vectors, linear equations, matrices and determinants or else that students are able to proceed faster by this point. I think consolidation and extension of the linear algebra material would make this chapter more self-contained and more in accord with the authors' intentions. Second, the authors use the minority practice of writing xf for $f(x)$. In the other chapters, this is not a difficulty, but here it produces an inversion of order in matrix multiplication which is rectified by transposing all matrices. A positive feature is the extensive treatment of linear groups, canonical forms and invariants.

The remaining chapters cover Boolean algebra, simple transfinite arithmetic (using Russell's somewhat unsatisfactory definition of cardinal number), rings, algebraic number fields and Galois theory. The book thus culminates with some of the great triumphs of algebra—the impossibility of duplicating the cube, trisecting an angle and solving the quintic by radicals.

After 36 years, there can be few mathematicians who have never used the *Survey* as a text or a reference. Along with van der Waerden's *Modern Algebra*, it has helped the recent growth of abstract algebra. Since this edition is little different from the previous two, few people will need to buy it immediately, but it will certainly continue as a standard text and reference for years to come. A paperback edition would make it even more widely used.

David Singmaster

Group theory Conceptual

Theory of Unitary Representations
by George W. Mackey
University of Chicago Press, £9.00
ISBN 0 226 50051 9

There are few group theorists or mathematically inclined quantum field theorists who are not familiar with Mackey's 1955 Chicago lecture notes on unitary representations of locally compact groups. These were published in the *Annals of Mathematics* in 1961 and had a significant influence on the later development of the theory.

In recent years, however, these notes have been increasingly difficult to obtain and in response to the continued demand the University of Chicago Press has taken the rather adventurous step of publishing them as the first half of a book. The crucial question of course is whether, 22 years later, these lectures are too dated. In short the answer is no. The theory of groups has been extensively developed over the last two decades but Mackey's book remains a masterful short introduction to the general theory of group representations (with particular emphasis on methods of integral decomposition) and to the theory of induced representations.

Even if the book contained nothing but the original lectures it could be strongly recommended. In fact, however, it comes equipped with a splendid bonus in the form of an extensive survey of the historical evolution of the theory of the present issue. This is written in Mackey's usual eloquent and readable style and constitutes an invaluable guide to the literature in this area. Indeed I am sure that the owners of the original mimeographed notes would find it worthwhile purchasing this book just for this second half.

Mackey's book can be confidently recommended to anyone with an interest in group representation theory. One can only hope that Oxford University Press might be tempted to publish a similar collection of his equally well-known and currently unobtainable Oxford lectures.

J. Isham

Reviewers

R. L. Boyd is professor of physics at University College London and director of the Mullard Space Science Laboratory.

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C. W. Kilmister is professor of mathematics at Kings College London.

Norman McCord is professor of naval history at the University of Newcastle upon Tyne.

W. E. McCrea is professor in the of Sussex.

R. M. Sillito, senior lecturer in physics at the University of Edinburgh, is author of *Introduction to Non-relativistic Quantum Mechanics*.

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edited by C P Enns and translated by S Margulies and H R Lewis
Volume 1 Electrodynamics
Volume 2 Physics and the Theory of Elements
Volume 3 Thermodynamics and the Kinetic Theory of Gases
Volume 4 Statistical Mechanics
Volume 5 Wave Mechanics
Volume 6 Selected Topics in Field Quantization
£3.00 each paperback (6 volumes boxed set £14.00)

The MIT Press
128 Buckingham Palace Road London SW1W 9SD

The Experience of Projects
As a follow-up to the publication 'Project Methods in Higher Education', SHEG Group is collecting information about higher educational project work, with a view to 'capturing the experience' rather than assessing formal details.
We should like to invite anyone involved in project work in 1977-78 who would be interested in contributing to our study to contact David Jacques at UTMU, 55 Gordon Square, London WC1, with a brief statement about the project, and any documents issued to students.
We shall be asking tutors and students to maintain a diary throughout the project to which they will record their experiences, especially the stages and breakthroughs. We may wish to interview tutors and students to explore some of the issues raised. We hope that this unusual combination will not deter people from writing in and contributing to an important study.
Society for Research into Higher Education
Working party on teaching methods—Projects Group
Academic Research Projects
Can you help?
Information required.
See SRHE advertisement on page 20.

From Quarks to Quasars
An Outline of Modern Physics
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A remarkable book of a convincing and exciting picture which is more readable and honest than any available elsewhere. Frank Austis, T.E.S.
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The Athlone Press
UNIVERSITY OF LONDON

Universiteit van Amsterdam
lector
Associate Professor with a Tenure/Reader in American and Modern English Literature
The appointment is in the English Department
Applications are invited for this newly created tenure position, which is to be filled by September 1st 1978 at the latest. Applicants are expected to have a thorough knowledge of classical and modern American literature and its cultural and historic backgrounds, and of the developments in American literary criticism, including critical theory. They should also have a sound knowledge of modern English literature. Wide experience in teaching, research and management are essential.
The successful applicant will lecture on, and give seminars in American Literature, and supervise and evaluate work at graduate level. He or she will institute courses in American Literature as subsidiary subjects for students outside the English Department. He or she should be prepared to take a share in the teaching of Modern English Literature. He or she should both develop research projects of his own and stimulate and supervise research by others on a post-graduate level in the fields concerned.
He or she will take an active part in the management of the Department and serve on committees both there and for the Faculty of Letters generally.
If he or she is not as yet familiar with the Dutch Language, he or she must become reasonably competent within the briefest possible period of time.
Salary from Dufl 5639,- to 8088,- per annum, with provisions for superannation.
Applications, including a curriculum vitae and list of publications, as well as the names of two referees should be sent, not later than January 25th, 1978, to the head of the appointment committee, Prof. Dr. C. L. Ebeling, c/o Spuistraat 210, Amsterdam. He is also prepared to supply further information.

Group theory Conceptual
Complex Analysis
by Serge Lang
Addison-Wesley, £12.00
ISBN 0 201 01137 5
Professor Lang is the author of many books, not all of them received by reviewers. Mackey has written an undergraduate text on complex analysis, and it is very fine book indeed. While it does not try to compete with standard present-day texts, it presents a slightly 'old-fashioned' point of view which is immensely appealing. It places the concept of analyticity in the position which it deserves and deals with fundamental concepts such as the theory of residues and series expansions in a manner which will enlighten and motivate the student, as well as motivate him.
Most serious undergraduates will profit greatly from this book. The first part contains the essentials of a one-semester course and the second part presents various optional extras. I approve entirely of the author's philosophy, regarding Cauchy's theorem: *that students should either see a proper proof, or no proof at all.*
The first part consists of eight chapters dealing with Cauchy's theorem, Cauchy's integral formulae, calculus of residues (with lots of examples), conformal mappings (with which I am particularly fond), which is, perhaps, more suitable as a first postgraduate text, there is a chapter on elliptic functions of special interest to the mathematician, the Riemann mapping theorem and the Riemann zeta function (invariant families).
The chapter on analytic continuation is rather brief—the 'Riemann surface' appears only once and continues to not discuss functional equations, previous attempts in spite of the gamma function. There is also a nice little chapter on rational values of entire functions based on the Gel'fand-Schilov method for proving transcendence. Undergraduate students who are alike will learn a lot from this book. I warmly recommend it.
J. M. Anderson

SENIOR POSITION IN SHAKESPEARE AND RENAISSANCE DRAMA
Applications are invited for a Senior Position in Shakespeare and Renaissance Drama
Applicants should have distinguished publications in this area and experience teaching and supervising graduate students.
Rank and salary will be commensurate with qualifications and experience. The appointment, subject to the availability of funds, should be effective July 1, 1978.
Applications should be sent by December 1, 1977, to Professor John T. Ondaatje, Acting Head, Department of English, University of Manitoba, Winnipeg, Manitoba, R3T 2N2.

Rhodes University
Grahamstown
South Africa
Applications are invited for the following posts from 1st January, 1978:
Professor and Head of the Department of Classics
Senior Lecturer/Lecturer in Accounting
Senior Lecturer/Lecturer in Computer Science
Senior Lecturer/Lecturer in Mathematical Statistics
The salary scales are:
PROFESSOR—R19 000 x 450—12 800 x 800—13 900 per annum
SENIOR LECTURER—R 400 x 380—9 000 x 450—11 250 per annum
LECTURER—R 300 x 300—8 100 per annum
(Note: £1 sterling is approximately R1.50)
The initial salary will be determined according to qualifications and experience. In addition a supplement of 10% on the above scales and a vacation savings bonus are payable. In the case of the Senior Lectureship in Accounting, provided the appointee's qualifications and practical experience are acceptable to the Public Accountants and Auditors' Board, he will qualify for a subvention of salary. The successful applicant will become members of the University's pension and medical aid schemes.
Further particulars and application forms may be obtained from the Scientific Counsellor, c/o South African Embassy, Chichester House, 278 High Holborn, London.

UNIVERSITY OF BRADFORD
VICE-CHANCELLOR AND PRINCIPAL
The Council and Senate of the University of Bradford have appointed a Joint Committee to recommend a successor to Dr. E. G. Edwards, who retires on 31st March 1978. The Committee invites applications for the post. Persons with appropriate qualifications and experience may write privately to the Chairman, Mr. J. J. Taylor (Vice-Chancellor and Chairman of Council), University of Bradford, Giggleswick, or to the names of others suitable to consideration would also be welcome.
The University Council reserves the right to appoint to the post by invitation.
Information about the University and further particulars of the post may be obtained from the Registrar, University of Bradford, Bradford, West Yorkshire BD7 1DP.

UNIVERSITY OF SINGAPORE
FACULTY OF LAW
Applications are invited for teaching appointments to the Faculty of Law from candidates who have, preferably, a Master's degree in Law and relevant teaching or research experience. Gross monthly emoluments in the range from S\$1,420 to S\$5,045 approx, the initial amount depending on the level of appointment offered. In addition, the University pays a 13th month annual allowance of one month's salary in December of each year. Leave, medical, housing and provident fund benefits are available. Candidates should write to The Registrar, University of Singapore, Singapore 10, giving curriculum vitae (bi-curate), with full personal particulars, and also the names and addresses of three referees.

University of London
Senate House
Assistant Secretary (Accounting)
£6,893-£8,401
Applications are invited from experienced, qualified accountants to fill one of two senior posts within the Accounting Division of the Department of Accounting and Administrative Computing, which serves the central administrative offices of the University, central institutions and activities. The person appointed will be responsible directly to the Deputy Secretary (Accounting) who heads the Accounting Division.
The appointment, which will provide ample scope for developing new ideas and exercising initiative, involves working alongside an existing member of staff with a view to taking over full control of a major section of the Division's work in mid-1978.
Salary will be within the ranges for Grade III University Administrative Officers £8,443-£7,051 plus £450 London Allowance; annual leave entitlement six weeks. Salary under review effective 1 October, 1977.
Further details (including method of application) are available from Mrs Debbie Croucher (01-939 8000; Extension 129). Applications should reach the Personnel Officer, University of London, Senate House, Malet Street, WC1E 7HU, not later than 31 October, 1977.

UNIVERSITY COLLEGE CORK
ACCOUNTANT
Department of the Finance Officer and Secretary
Applications are invited for the above permanent and pensionable post.
Duties comprise the provision of the Finance Office including Accounts Payable and Payroll Section, the collection of fees and the operation of interest and final accounts.
Qualifications:
(1) A professional qualification in Accounting (University Degree would be an advantage);
(2) Relevant experience.
Salary (from 1st November, 1977):
£6,141 x 6—£7,340 plus children's allowances.
Application forms and further details available on request (by post, please) from Establishment Officer, University College, Cork, Ireland.
Closing date for completed applications: Wednesday, 9th November, 1977.

UNIVERSITY OF WESTERN AUSTRALIA
Perth
HISTORY
Applications are invited for appointment to three positions of SENIOR TUTOR in the Department of History. These are temporary posts, commencing in February 1978, and two of the appointees will be expected to assume duty not later than mid-February. The third post is available from 1st January. The appointees will be required to teach in one or more of the following fields: modern British History; later modern European history; 18th and 19th century Australian history; Renaissance and Reformation Europe; social history; and the history of the Americas. The current salary range for a Senior Tutor is \$475-\$635-\$815 p.a. An appointee will be entitled to an allowance of up to \$A1,000 towards appointment expenses.
Applications in duplicate stating full personal particulars, qualifications and experience should reach the Staffing Officer, University of Western Australia, Nedlands, Western Australia, 6009, by November 5, 1977. Candidates should request three referees to write immediately to the Staffing Officer.

UNIVERSITY OF WESTERN AUSTRALIA
Perth
PHILOSOPHY
Applications are invited for appointment as LECTURER in the Department of Philosophy. This is a temporary appointment for the period February to December 1978, and candidates must be able to teach Philosophy at third-year and honours level and Moral Philosophy at undergraduate level. The current salary range for a Lecturer is \$A14,522 to \$16,522 p.a. The appointee will be entitled to an allowance of up to \$A1,000 towards appointment expenses.
Applications in duplicate stating full personal particulars, qualifications and experience should reach the Staffing Officer, University of Western Australia, Nedlands, Western Australia, 6009, by November 5, 1977. Candidates should request three referees to write immediately to the Staffing Officer.

Universities continued

CHELSEA COLLEGE
University of London

College Secretary

Applications are invited for the post of College Secretary at Chelsea College, following the appointment of Mr P. Taylor to a senior administrative post at Senate House. The Secretary will be responsible for all the administrative work in the College and the person appointed will need to oversee matters of a managerial, legal and personnel nature, as well as being acquainted with the financial and academic side. The salary will be in the Grade IV academically-related range (minimum £12,000 per annum) and the initial salary will be appropriate to the experience and qualifications of the person appointed. Further particulars can be obtained from Chelsea College, Manresa Road, London, S.W.3, to whom applications should be made by 14th October, 1977.

UNIVERSITY OF NAIROBI
KENYA

Applications are invited for the following posts in the Department of Geography.

SENIOR LECTURER IN GEOGRAPHY

Applicants must hold a higher degree in Geography with extensive research experience in the subject. Preference will be given to candidates who have specialisation in the field of physical geography. The Department of Geography has over 15 academic members of staff and the appointee will be expected to play the senior role appropriate to his/her appointment.

LECTURER IN URBAN GEOGRAPHY AND REGIONAL OR PHYSICAL PLANNING

Applicants should have qualifications in the field of Urban Geography and Physical Planning. Candidates must have a Ph.D. in the subject. Preference will be given to candidates who have specialisation in the field of urban geography. The Department of Geography has over 15 academic members of staff and the appointee will be expected to play the senior role appropriate to his/her appointment.

UNIVERSITY OF NAIROBI
KENYA

Applications are invited for the following posts in the Department of Geography.

SENIOR TUTOR/LECTURER IN ENGLISH AS A SECOND LANGUAGE

The appointee will be based in the Linguistics Department, but may be required to teach in the Department of Education. The appointee will be responsible for the teaching of both First Year and Second Year students. The appointee will be expected to play the senior role appropriate to his/her appointment.

ANGLICAN CHAPLAINCY
LEADS UNIVERSITY & POLYTECHNIC

Assistant Chaplain

required for Anglican Chaplaincy at Leeds University and Polytechnic. Salary as per Rectorial Disciplinary Committee (1977). Applicants are likely to be graduates completing a second course.

Please write to the Revd. A. H. Overell, Emmanuel Institute, The University, Leeds LS2 9JT, giving details of experience and naming at least two referees.

NATIONAL UNIVERSITY OF LESOTHO

PROFESSOR OF GOVERNMENT and ADMINISTRATION

to be filled from 1978 in the field of other African politics and public administration. There are opportunities for research, teaching and consultancy. The appointee will be expected to play the senior role appropriate to his/her appointment.

UNIVERSITY OF THE WEST INDIES—TRINIDAD

ASSISTANT LIBRARIAN/LIBRARIAN III in the Library

Applications are invited for the post of Assistant Librarian/Librarian III in the Library. The appointee will be responsible for the day-to-day running of the library and will be expected to play the senior role appropriate to his/her appointment.

UNIVERSITY OF CALIFORNIA, IRVINE

Postholders, both of the Junior and Senior Professorial ranks, in the School of Social Sciences. Duties will involve graduate and undergraduate teaching in the areas of anthropology, sociology and other basic social sciences. The appointee will be expected to play the senior role appropriate to his/her appointment.

UNIVERSITY OF WESTERN AUSTRALIA
Perth

LECTURER IN HOME ECONOMICS

Applicants should have a good degree in Home Economics. Preference will be given to candidates with postgraduate qualifications in the subject. The appointee will be expected to play the senior role appropriate to his/her appointment.

Girton College Cambridge

Applications are invited for the following posts in the Department of Geography.

SENIOR TUTOR/LECTURER IN ENGLISH AS A SECOND LANGUAGE

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UNIVERSITY OF WESTERN AUSTRALIA
Perth

LECTURER IN HOME ECONOMICS

Applicants should have a good degree in Home Economics. Preference will be given to candidates with postgraduate qualifications in the subject. The appointee will be expected to play the senior role appropriate to his/her appointment.

UNIVERSITY OF WESTERN AUSTRALIA
Perth

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THE UPEN UNIVERSITY
FACULTY OF EDUCATIONAL STUDIES

TEMPORARY ASSISTANT PROFESSOR

Applications are invited for the post of Temporary Assistant Professor in the Faculty of Educational Studies. The appointee will be responsible for the teaching of students in the subject of Educational Studies. The appointee will be expected to play the senior role appropriate to his/her appointment.

THE OPEN UNIVERSITY
FACULTY OF EDUCATIONAL STUDIES

TEMPORARY ASSISTANT PROFESSOR

Applications are invited for the post of Temporary Assistant Professor in the Faculty of Educational Studies. The appointee will be responsible for the teaching of students in the subject of Educational Studies. The appointee will be expected to play the senior role appropriate to his/her appointment.

UNIVERSITY OF WESTERN AUSTRALIA
Perth

LECTURER IN HOME ECONOMICS

Applicants should have a good degree in Home Economics. Preference will be given to candidates with postgraduate qualifications in the subject. The appointee will be expected to play the senior role appropriate to his/her appointment.

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UNIVERSITY OF WESTERN AUSTRALIA
Perth

LECTURER IN HOME ECONOMICS

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DOWNING COLLEGE

RESEARCH FELLOWSHIP

The Governing Body of Downing College invite applications for Research Fellowships in the field of African politics and public administration. The appointee will be responsible for research and teaching in the subject. The appointee will be expected to play the senior role appropriate to his/her appointment.

UNIVERSITY OF OXFORD
Magdalen College

TAVELLA STEWART SCHOLARSHIP

Magdalen College, Oxford, proposes to elect a Tavella Stewart Scholarship in the field of African politics and public administration. The appointee will be responsible for research and teaching in the subject. The appointee will be expected to play the senior role appropriate to his/her appointment.

THE NUFFIELD FOUNDATION

Social Science Research Fellowships

These awards are intended for the study of social science in the field of African politics and public administration. The appointee will be responsible for research and teaching in the subject. The appointee will be expected to play the senior role appropriate to his/her appointment.

ULSTER COLLEGE
The Northern Ireland Polytechnic

Lecturer II or Senior Lecturer—Photography/Graphic Design

Applicants should hold one of the following qualifications: A Diploma in Design of the Royal College of Art, BA (Hons) in Art and Design, The Diploma in Art and Design, The National Diploma in Design or an appropriate qualification in Photography. It is desirable that they should have experience in teaching in a college recognised for the award of the BA (Hons) Degree and/or designing for industry.

NEW ZEALAND
VICTORIA UNIVERSITY OF WELLINGTON

LECTURERS IN MUSIC

Applications are invited for the post of Lecturer in Music in the Faculty of Music. The appointee will be responsible for the teaching of students in the subject of Music. The appointee will be expected to play the senior role appropriate to his/her appointment.

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THE UPEN UNIVERSITY
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UNIVERSITY OF WESTERN AUSTRALIA
Perth

LECTURER IN HOME ECONOMICS

Applicants should have a good degree in Home Economics. Preference will be given to candidates with postgraduate qualifications in the subject. The appointee will be expected to play the senior role appropriate to his/her appointment.

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ULSTER COLLEGE
The Northern Ireland Polytechnic

Lecturer II or Senior Lecturer—Photography/Graphic Design

Applicants should hold one of the following qualifications: A Diploma in Design of the Royal College of Art, BA (Hons) in Art and Design, The Diploma in Art and Design, The National Diploma in Design or an appropriate qualification in Photography. It is desirable that they should have experience in teaching in a college recognised for the award of the BA (Hons) Degree and/or designing for industry.

Polytechnics continued

NEWCASTLE UPON TYNE POLYTECHNIC
Department of Humanities

PRINCIPAL LECTURER IN ENGLISH

Applications are invited for the post of Principal Lecturer and Head of Division of English Studies in the Department of Humanities. The person appointed will be responsible for co-ordinating the work of the twelve staff in this division, the encouragement of research and of new courses and teaching developments in this subject.

The Department offers a B.A. (Honours and Unclassified) CMAA Degree course in English and Communication Studies for other Polytechnic Departments. A part-time degree course in English is also being planned, to begin in 1978.

Candidates should be good honours graduates with wide experience of the teaching and examining of English to final honours level, and of course planning and development. Candidates should also have research experience and qualifications or equivalent achievement, for example in published academic work or creative writing.

Burslem P.E. Principal Lecturer, £5,940 to £6,642 (Bar) to £7,578 all plus £312 and £180 per annum salary supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, Newcastle upon Tyne Polytechnic, Ellison Building, Blison Place, Newcastle upon Tyne NE1 5ST.

Brighton Polytechnic
Department of Communication and European Studies

Research Assistants (Two Posts)
£2,378 to £2,638 p.a.

1. LANGUAGE RESEARCH PROJECT
(In collaboration with the BBC)
Involvement with the consideration of factors influencing educational radio and television language broadcasts. Candidates should be Modern Language graduates.

2. KEEP BRITAIN Tidy GROUP SCHOOLS RESEARCH PROJECT
For research and development work including the design and construction of learning materials. Candidates should be graduates with teaching experience, preferably in Environmental Education.

Application forms and further details may be obtained from the Personnel Office, Brighton Polytechnic, Moulsecombs, Brighton BN2 4GJ. Closing date 26th October, 1977.

The POLYTECHNIC WOLVERHAMPTON

Academic Registrar

Immediate applications invited for this senior administrative appointment in expanding institution; from September 1, 1977 the present five faculties have been increased by a Faculty of Education formed from three colleges of education. Candidates should possess a university degree and/or relevant professional qualifications but above all have had significant senior experience in academic administration within higher education.

Salary under review but currently Principal Officer (b-c) £5,512 to £6,577.

Details and application form from Establishment Officer, The Polytechnic, Wolverhampton WV1 1LY.

oxford polytechnic

Head of Department of Humanities (Grade VI)
(£8,529-£9,093)

Applications, including a curriculum vitae and the names of three referees, should be sent to Dr. C. A. Horn, Dean of the Faculty of Modern Studies, Oxford Polytechnic, Oxford, OX3 9BP; by 31 October, 1977, from whom further particulars and application forms may be obtained.

MANCHESTER THE POLYTECHNIC
PROFESSIONAL OFFICER

Applications are invited for the post of Professional Officer in the Department of Business Studies. The duties of the post include the day-to-day running of the department, the supervision of staff, the maintenance of the department's financial and administrative records, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in Business Studies. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, Manchester Polytechnic, Oxford Road, Manchester M6 9PU.

LEICESTER THE POLYTECHNIC
SCHOOL OF COMMUNICATIONS

Applications are invited for the post of Lecturer in the School of Communications. The duties of the post include the teaching of students, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in Communications. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, Leicester Polytechnic, 100 Brookfields, Leicester LE4 7BU.

MANCHESTER THE POLYTECHNIC
UNIVERSITY OF ADVANCED STUDIES

Applications are invited for the post of Lecturer in the University of Advanced Studies. The duties of the post include the teaching of students, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, Manchester Polytechnic, Oxford Road, Manchester M6 9PU.

BOURNEMOUTH & POOLE COLLEGE OF ART
Royal London House, Lansdowne, Bournemouth

Part-time Lecturers required for the general programme of studio teaching in Foundation Studies. An ability to contribute to the colour and drawing courses is important, and one of the lecturers will be required to help with the General Studies programme of work. Applicants should write to the Head of Department giving full details of qualifications, experience and some indication of their other teaching or professional commitments.

SUNDERLAND THE POLYTECHNIC
DEPARTMENT OF SOCIAL SCIENCES

Applications are invited for the post of Lecturer in the Department of Social Sciences. The duties of the post include the teaching of students, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, Sunderland Polytechnic, 100-102, Rainton, Sunderland SR1 1DA.

ROYAL COLLEGE OF ART DESIGN EDUCATION UNIT

Applications are invited for the post of Lecturer in the Royal College of Art Design Education Unit. The duties of the post include the teaching of students, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, Royal College of Art, 100 Brookfields, Leicester LE4 7BU.

LONDON POLYTECHNIC OF THE NATURAL SCIENCES
DEPARTMENT OF OPERATIONAL RESEARCH

Applications are invited for the post of Lecturer in the Department of Operational Research. The duties of the post include the teaching of students, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, London Polytechnic, 100 Brookfields, Leicester LE4 7BU.

Administration

THE OPEN UNIVERSITY
ACADEMIC ADMINISTRATION DIVISION

Applications are invited for the post of Administrative Assistant in the Academic Administration Division. The duties of the post include the day-to-day running of the division, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, Open University, Milton Keynes MK8 9AL.

Colleges and Institutes of Technology

STRATHCLYDE REGIONAL COUNCIL
Department of Education

DEPARTMENT OF EDUCATION FURTHER EDUCATION
LECTURER in ELECTRONIC ENGINEERING

Glasgow College of Technology, Cawcaddens Road, Glasgow G4 0BA

Applications are invited for the above post in a department which offers BSC, HND and HNC courses. Applicants should possess a good honours degree preferably with subsequent research or industrial experience. The duties of the post include the teaching of students, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, Strathclyde Regional Council, Glasgow G4 0BA.

Colleges and Departments of Art

BUCKINGHAMSHIRE COLLEGE OF HIGHER EDUCATION
Director: G. J. Egan

SCHOOL OF ARTS DESIGN, FURNITURE, TIMBER

Head of School: Herbert Berg, 808 The Woodlands, High Wycombe, Bucks HP12 3JH. Tel. No. HW2218.

Applications are invited for the post of Lecturer in the School of Arts Design, Furniture, Timber. The duties of the post include the teaching of students, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, Buckinghamshire College of Higher Education, High Wycombe, Bucks HP12 3JH.

Ealing College of Higher Education
School of Economics and Accounting

LECTURER II in ACCOUNTING

Re-advertisement

Candidates should have degree and/or professional qualifications and should be able to contribute to the teaching of at least one of the following areas:

- Undergraduate non-degree level professional work, post-graduate management courses.
- Business studies in secondary schools and sixth form.
- Business studies in adult education.

Salary: £4,153-4,307 per annum, inclusive of London Allowance and salary supplements.

Further details from Administrative Officer (TOUC), Ealing College of Higher Education, St. Mark's Road, London W5 8RP. Closing date: October 26th, 1977.

Official Appointments

LONDON BOROUGH OF ENFIELD
Assistant Education Officer (Further Education)
£5,494-£6,055

Requires first test result 1972, to assist the Education Officer in the provision of further education courses. The duties of the post include the day-to-day running of the department, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £5,494-£6,055.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, London Borough of Enfield, 100 Brookfields, Leicester LE4 7BU.

Senior Lecturer responsible for the short courses unit

The person appointed will be responsible to the Head of Department for the management and development of short educational courses for industry and education. Applicants should possess a degree and teaching qualifications, should have experience in the design of learning systems, instructional techniques and in the use of audio-visual aids. Salary will be according to age and experience. Post ref: DER/477.

Senior Course Tutor
Diploma in Learning Resources

The successful candidate will be expected to manage and develop the established one year full time course and to lecture in Design and Audio Visual Technology. Applicants should possess a degree and teaching qualifications, and should have experience in educational technology or experience of teaching staff in an advanced level. Salary will be according to age and experience. Post ref: DER/577.

Administrative Assistant

Applications are invited for the post of Administrative Assistant in the Department of Education. The duties of the post include the day-to-day running of the department, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, Department of Education, 100 Brookfields, Leicester LE4 7BU.

Colleges and Institutes of Technology

STRATHCLYDE REGIONAL COUNCIL
Department of Education

DEPARTMENT OF EDUCATION FURTHER EDUCATION
LECTURER in ELECTRONIC ENGINEERING

Glasgow College of Technology, Cawcaddens Road, Glasgow G4 0BA

Applications are invited for the above post in a department which offers BSC, HND and HNC courses. Applicants should possess a good honours degree preferably with subsequent research or industrial experience. The duties of the post include the teaching of students, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, Strathclyde Regional Council, Glasgow G4 0BA.

Colleges and Departments of Art

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Director: G. J. Egan

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Head of School: Herbert Berg, 808 The Woodlands, High Wycombe, Bucks HP12 3JH. Tel. No. HW2218.

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Official Appointments

LONDON BOROUGH OF ENFIELD
Assistant Education Officer (Further Education)
£5,494-£6,055

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For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, London Borough of Enfield, 100 Brookfields, Leicester LE4 7BU.

Senior Lecturer responsible for the short courses unit

The person appointed will be responsible to the Head of Department for the management and development of short educational courses for industry and education. Applicants should possess a degree and teaching qualifications, should have experience in the design of learning systems, instructional techniques and in the use of audio-visual aids. Salary will be according to age and experience. Post ref: DER/477.

Senior Course Tutor
Diploma in Learning Resources

The successful candidate will be expected to manage and develop the established one year full time course and to lecture in Design and Audio Visual Technology. Applicants should possess a degree and teaching qualifications, and should have experience in educational technology or experience of teaching staff in an advanced level. Salary will be according to age and experience. Post ref: DER/577.

Official Appointments

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Assistant Education Officer (Further Education)
£5,494-£6,055

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Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £5,494-£6,055.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, London Borough of Enfield, 100 Brookfields, Leicester LE4 7BU.

West Glamorgan Institute of Higher Education
LECTURER GRADE 1 IN LAW

Applications are invited from suitably qualified persons for the following posts in the Authority's service. To each Law on a wide range of Professional, Diploma and Certificate courses.

Applicants should be graduates in Law, and preferably with previous teaching experience. Post Ref. F/18.18.77.

Port Talbot College of Further Education
LECTURER GRADE 1 IN ELECTRICAL ENGINEERING

To teach City and Guilds (and T.E.C.) Technician Courses. Candidates should be graduates (or equivalent) with appropriate experience, preferably in a heavy industrial environment of heavy current distribution and utilization. A teaching qualification and/or teaching experience would be advantageous. (Post Ref. EP/7.9.19.77.)

Swansea College of Further Education
LECTURER GRADE 1 IN WELSH

To teach Welsh up to G.C.E. 'D' and 'A' level standard, also FRENCH to 'O' level (1FSC/10.19.77).

SALARY—LECTURER GRADE 1 £2,469-£4,377 plus supplement.

Application forms and further particulars of specific posts are available from the undersigned on receipt of a stamped addressed foolscap envelope quoting the appropriate post reference(s).

CLOSING DATE. The closing date for the receipt of completed application forms is FRIDAY, 20th OCTOBER, 1977.

John Beale, Director of Education, Education Department, Princess House, Princess Way, SWANSEA.

West Glamorgan Gorseinon College of Further Education

Applications are invited from suitably qualified persons with extensive experience in the field of further education and preferably some experience of industry or commerce for the post of

Principal

at the above-named college.

Salary shall be selected from the range £7,074 to £8,582 plus supplement in accordance with the Burnham Report for Teachers in Establishments of Further Education for a GRDUP 3 College.

Application forms and further particulars are available from the undersigned on receipt of a stamped addressed foolscap envelope quoting post reference OFGC/1.19.77.

CLOSING DATE. The closing date for the receipt of completed application forms is FRIDAY, 28th OCTOBER, 1977.

John Beale, Director of Education, Education Department, Princess House, Princess Way, SWANSEA.

London Inner London Education Authority
LONDON COLLEGE OF PHOTOGRAPHY, FILM AND TELEVISION

Applications are invited for the post of Lecturer in the Department of Photography, Film and Television. The duties of the post include the teaching of students, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, London Inner London Education Authority, 100 Brookfields, Leicester LE4 7BU.

London Inner London Education Authority
LONDON COLLEGE OF PHOTOGRAPHY, FILM AND TELEVISION

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For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, London Inner London Education Authority, 100 Brookfields, Leicester LE4 7BU.

Official Appointments

LONDON BOROUGH OF ENFIELD
Assistant Education Officer (Further Education)
£5,494-£6,055

Requires first test result 1972, to assist the Education Officer in the provision of further education courses. The duties of the post include the day-to-day running of the department, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £5,494-£6,055.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, London Borough of Enfield, 100 Brookfields, Leicester LE4 7BU.

ALTERNATIVE HIGHER EDUCATION

Applications are invited for the post of Lecturer in the Department of Alternative Higher Education. The duties of the post include the teaching of students, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

For further particulars and application forms, returnable by Monday 24th October, 1977, please send stamped addressed postpaid envelope to the Staffing Officer, Department of Alternative Higher Education, 100 Brookfields, Leicester LE4 7BU.

James Cook University of North Queensland, Australia
Postgraduate Studies—1978

The University

- is situated in Townsville, a tropical coastal city with a population of approximately 100,000.
- has a full-time faculty and research staff of 200, and approximately 1,600 students, including 274 overseas in higher degree studies.

Courses

- offers PhD and Masters research degrees in Art, Education, Engineering, English, Geology, History, Modern Languages and Tropical Veterinary Science.

Facilities include

- four residential colleges, one hall of residence, together accommodating 680 students;
- Library of 150,000 volumes and specialist collections;
- the computer centre with an extensive network of remote terminals based on a DEC system 10 time-sharing computer;
- 17 teaching studios for research work;
- translation and scanning electron microscopes.

The Departments

- Behavioural Sciences, Botany, Chemistry and Biochemistry, Civil and Systems Engineering, Commerce, Economics, Education, Electrical Engineering, English, Geology, Geology, History, Marine Biology, Mathematics, Modern Languages, Physics, Tropical Veterinary Science and Zoology—which includes up to the faculties of Arts, Commerce and Economics, Education, Engineering and Science.

Research

some of the specialized research areas within the University are:

- metecology, tropical cyclones, storm surges, wind engineering, and the evolution and the evaluation and management of the Great Barrier Reef;
- computational fluid dynamics, and general studies, transportation, operations research, management, systems engineering;
- mineralogy—primary and secondary productivity, structure and ecology of tropical marine estuarine and fresh water ecosystems;
- mineralogy—gas and oil, and oilfield mineralogy and geology, geochemistry;
- soil science—hydrology and land-use engineering, soil energy, soil science, electrical, power systems, radio physics, radar oceanography, coastal engineering;
- mineralogy—mineralogy and geology in the tropics;
- chemistry of sugar production;
- education history and philosophy—learning styles and teaching, special education, curriculum studies;
- nationalism in the Philippines and Indonesia, frontier history, race relations in Australia;
- anthropology, adaptation and culture of Aborigines and Torres Strait Islanders.

Fees

- no tuition fees, Student Activities Charge \$486 full-time and \$438 part-time.

Scholarships

- Commonwealth Government Postgraduate course and research awards;
- James Cook University Research Award Scholarships;
- closing date research awards 30 September;
- closing date research awards 31 October.

Applications

The Registrar, Post Office, James Cook University, Douglas, QLD, AUSTRALIA 4811. Attention: Admissions Section

Cambridge University
DIPLOMA IN ENGLISH STUDIES (for foreign students)

Students who have obtained their Certificate of Proficiency in English after 30 months, to sit the examination for the Diploma in English Studies. The Diploma course involves study of English Language and Literature in a level roughly equivalent to that required for Part 1 of the British university degree examinations in similar subjects, and is the highest qualification provided in Britain specifically for foreign students of English.

Brochure, College, Cambridge, England, or to the Department of Language and Literature, 100 Brookfields, Leicester LE4 7BU.

Apply to: The Vice-Chancellor, Cambridge, Tel. 0223 346370.

London The Polytechnic of North London
LIBRARY AND INFORMATION SERVICES

SUBJECT LIBRARIAN LANGUAGE AND LITERATURE

A vacancy exists in our Library at Prince of Wales Road, Hendon, for a Subject Librarian to serve the Department of Language and Literature and to contribute to the general running of this busy service point. Professional and appropriate academic qualifications required as well as ability to work under pressure.

Salary scale Librarian 3, £5,896 to £4,537 (including London allowance) plus 0 per cent earnings supplement maximum £4 per week.

Application form and further details from Library, Education and Training Unit, The Polytechnic of North London, Hendon, London N4 7BB. (Telephone: 01-627 4789, ext. 2106/2105.)

Closing date for applications: 28 days from the appearance of this advertisement.

London Inner London Education Authority
LONDON COLLEGE OF PHOTOGRAPHY, FILM AND TELEVISION

Applications are invited for the post of Lecturer in the Department of Photography, Film and Television. The duties of the post include the teaching of students, the supervision of staff, and the preparation of reports for the Council and the University.

Applicants should have a minimum of five years' experience in a similar post, and a degree or equivalent qualification in the relevant subject. Salary: £6,447 to £7,578 p.a. plus £312 and £180 p.a. supplements.

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Official Appointments

LONDON BOROUGH OF ENFIELD
Assistant Education Officer (Further Education)
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